

MULTIMEDIA



UNIVERSITY

STUDENT ID NO

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# MULTIMEDIA UNIVERSITY

## FINAL EXAMINATION

TRIMESTER 2, 2015/2016

**BIT2844 – MANAGING INNOVATION AND  
TECHNOLOGY**  
( Distance Education )

2 MARCH 2016  
9.00 a.m. – 11.00 a.m.  
( 2 Hours )

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### INSTRUCTIONS TO STUDENTS

1. This question paper consists of **FOUR (4)** printed pages with **TWO (2)** sections.
2. Answer **ALL** questions in **Section A** and **ANY FOUR (4)** in **Section B**.
3. Marks are shown at the end of each question.

**SECTION A: COMPULSORY QUESTIONS (20 MARKS)**

**There are FOUR (4) questions in this section. Candidates MUST answer ALL questions.**

1. Identify the main aspects of “Management of Technology”. (5 Marks)
2. Define “Innovation”. (5 Marks)
3. Studies have shown that creativity is a root for innovation. What are the four (4) factors that determine individual innovativeness? (4 Marks)
4. Many feel that technology is something that is complex and difficult to fully understand - like NASA’s space shuttle, the Internet, artificial intelligence, etc. Do you agree with the earlier statements? Please elaborate on your answer. (6 Marks)

**SECTION B: STRUCTURED QUESTIONS (80 Marks)**

**There are FIVE (5) questions in this section. Candidates MUST answer ANY FOUR (4) questions.**

**Question 1**

- a) Which concept is often identified as the answer as to why some countries are more innovative than others? Discuss the concept and identify the common components. (15 Marks)
- b) Identify the factors that underline the importance of managing technology and innovation for modern businesses. (5 Marks)

**Question 2**

- a) You are a manager of a technology company. You know that the management need to ensure that the firm plans the products development so that there is a timely pipeline of products, i.e.: at any given time there are products at the earlier stages of their lifecycle positioned to grow and replace the current top products that will eventually move to the later stages of the lifecycle and decline. Please illustrate (with the aid of a diagram) and explain the model that enables you to have this understanding. (15 Marks)

Continued...

- b) Your team is currently in the last day of your strategic retreat and had been using one of the technological forecasting techniques. The aim is to identify important emerging technology for the company over the next 5 years. Mark, Mary, Steven and Raj had identified augmented reality, 3-D printing and drone technology respectively as their top 3 picks. Jenny and Jerry both proposed smart sensors, augmented reality and new age ceramics. Terence, Bill, Bob, Sarah and Jeremiah all agreed on 3-D printing, IOT and augmented reality. Vince, Jessica and you proposed 3<sup>rd</sup> generation nanobots, augmented reality and 3-D printing.

Next, you carried out a voting procedure to decide the importance of each idea. The process also allowed the team to end up with a deeper understanding of the problem, with list of related issues and criticality of each issue – priority list. Your team's priority list is as follows:

- I. Augmented reality
- II. 3-D printing
- III. IOT
- IV. Drone technology
- V. 3rd generation nanobots

Which forecasting technique did your team use? (5 Marks)

### Question 3

- a) Bhagwan Mahaveer Viklang Sahayata Samiti (BMVSS) is the world's largest organisation serving the disabled. This NGO provides all its assistance, including artificial limbs, calipers and other aids and appliances totally free of charge. Their most famous innovation is the Jaipur Foot. Made of superior quality material, lightweight and flexible. It is durable with high impact resistance and high tensile strength. Below-knee amputees can sit, run, squat, climb, walk and swim. Many of the functions can be performed by above-knee amputees as well. The Jaipur Foot can be used with or without shoes.

Another example, ChotuKool, the lowest cost refrigerator, does away with the use of conventional technology involving a compressor and uses a cooling chip and a fan similar to that used in computers. ChotuKool is slated to be perfect example of social inclusion for millions of households across India. ChotuKool does so by tackling and improving the 3Ls – Living Standard, Livelihood and Lifestyle.

Both Jaipur Foot and ChotuKool are examples of inclusive innovation. Discuss the importance of inclusive innovations via the five (5) key characteristics of inclusive innovations as outlined by the Global Alliance.

(10 Marks)

- b) In terms of product development and design, light bulbs, bicycles, televisions, and pencils are examples of \_\_\_\_\_.

(4 Marks)

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- c) You are a technology and innovation consultant. You have just read through the Gartner Top Technology Trends Report for 2015. Your clients at Tupperware, Bata, Prada and Nike are looking to make investments in technology that will enhance their product development abilities. You believe that among the trends identified, one of them would suit the needs of these clients. What is your recommendation and why? (6 Marks)

#### Question 4

- a) Your company has decided to enter into a collaborative project with F-Tech Ltd. The aim is to expand further your pacing technologies identified during the last technology audit exercise. The initiative enabled your firm to access expertise within F-Tech and manage the R&D risks to more acceptable level. F-Tech also has similar goals. As the project manager entrusted with the responsibility, you are making sure you do all you could to ensure smooth running of the project and successful delivery of the identified goals. The following table is an extract from your stakeholder management plan:

Stakeholder Type	Number
Project Team	12
Steering Committee	6
Union Representatives	2
Consultants	3

Communications had been identified as one of the key success factors. Using the standard formula, determine the number of communication channels you need to manage for this project. (8 Marks)

- b) One of the expected outcomes from the collaboration with F-Tech is transfer of technology from F-Tech to your firm and vice versa. According to researchers there are several types of technology transfer; briefly explain the key characteristics of the three types of technology transfer and identify which type of technology transfer is most desirable for your firm. (12 Marks)

#### Question 5

- a) According to a recent report by Tech Trend Zoomers Ltd. a technology watchdog firm, nearly 75% of the smartphone market share in this region belongs to android-based products and 80% of the region's software/content firms produce products for the android Play Store. Your firm is an IT solution provider currently looking for new area of growth. Based on the report and your knowledge of the Network Externality Value concept, what would be the likely strategic decision you will take and why? (6 Marks)

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- b) The competitive environment of your sector is characterized by:
- flexible, aggressive, innovative competitors moving into established markets,
  - constant disequilibrium and change,
  - increased uncertainty, dynamism, and heterogeneity of competitors and hostility, and
  - competitive advantage is difficult or impossible to maintain.
- You are experiencing what type of competition? (2 Marks)
- c) When is it appropriate for you to recommend external means/strategies to acquire technology to your management? (4 Marks)
- d) A firm can exploit its technologies in two ways, first, internal exploitation (using the technologies to design, develop, manufacture and sell products) and second, external exploitation (transferring its capabilities to other firms which implement them in their own business). Identify any four (4) situations when external exploitation is appropriate? (8 Marks)

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